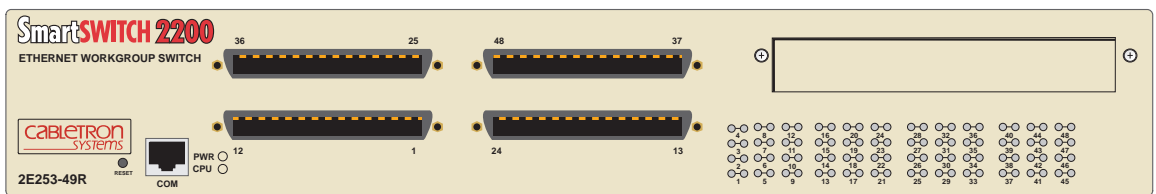


# 2E253-49R

## SmartSwitch 2200

### Installation User's Guide







Only qualified personnel should perform installation procedures.

## NOTICE

Cabletron Systems reserves the right to make changes in specifications and other information contained in this document without prior notice. The reader should in all cases consult Cabletron Systems to determine whether any such changes have been made.

The hardware, firmware, or software described in this manual is subject to change without notice.

IN NO EVENT SHALL CABLETRON SYSTEMS BE LIABLE FOR ANY INCIDENTAL, INDIRECT, SPECIAL, OR CONSEQUENTIAL DAMAGES WHATSOEVER (INCLUDING BUT NOT LIMITED TO LOST PROFITS) ARISING OUT OF OR RELATED TO THIS MANUAL OR THE INFORMATION CONTAINED IN IT, EVEN IF CABLETRON SYSTEMS HAS BEEN ADVISED OF, KNOWN, OR SHOULD HAVE KNOWN, THE POSSIBILITY OF SUCH DAMAGES.

Cabletron Systems, Inc.  
35 Industrial Way  
Rochester, NH 03867

© 2000 by Cabletron Systems, Inc.  
All Rights Reserved  
Printed in the United States of America

Order Number: 9033216 January 2000

**Cabletron Systems**, **SPECTRUM**, **QuickSET**, and **LANVIEW** are registered trademarks and **SmartSwitch** is a trademark of Cabletron Systems, Inc.

All other product names mentioned in this manual may be trademarks or registered trademarks of their respective companies.

---

## FCC NOTICE

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment uses, generates, and can radiate radio frequency energy and if not installed in accordance with the operator's manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference in which case the user will be required to correct the interference at his own expense.

**WARNING:** Changes or modifications made to this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## INDUSTRY CANADA NOTICE

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

## VCCI NOTICE

This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, the user may be required to take corrective actions.

この装置は、情報処理装置等電波障害自主規制協議会（V C C I）の基準に基づくクラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

---

## **CABLETRON SYSTEMS, INC. PROGRAM LICENSE AGREEMENT**

**IMPORTANT: THIS LICENSE APPLIES FOR USE OF PRODUCT IN THE FOLLOWING  
GEOGRAPHICAL REGIONS:**

**CANADA  
MEXICO  
CENTRAL AMERICA  
SOUTH AMERICA**

**BEFORE OPENING OR UTILIZING THE ENCLOSED PRODUCT, CAREFULLY READ  
THIS LICENSE AGREEMENT.**

This document is an agreement ("Agreement") between You, the end user, and Cabletron Systems, Inc. ("Cabletron") that sets forth your rights and obligations with respect to the Cabletron software program ("Program") in the package. The Program may be contained in firmware, chips or other media. UTILIZING THE ENCLOSED PRODUCT, YOU ARE AGREEING TO BECOME BOUND BY THE TERMS OF THIS AGREEMENT, WHICH INCLUDES THE LICENSE AND THE LIMITATION OF WARRANTY AND DISCLAIMER OF LIABILITY. IF YOU DO NOT AGREE TO THE TERMS OF THIS AGREEMENT, RETURN THE UNOPENED PRODUCT TO CABLETRON OR YOUR DEALER, IF ANY, WITHIN TEN (10) DAYS FOLLOWING THE DATE OF RECEIPT FOR A FULL REFUND.

IF YOU HAVE ANY QUESTIONS ABOUT THIS AGREEMENT, CONTACT CABLETRON SYSTEMS  
+1- 603-332-9400. Attn: Legal Department.

**1. LICENSE.** You have the right to use only the one (1) copy of the Program provided in this package subject to the terms and conditions of this License Agreement.

You may not copy, reproduce or transmit any part of the Program except as permitted by the Copyright Act of the United States or as authorized in writing by Cabletron.

**2. OTHER RESTRICTIONS.** You may not reverse engineer, decompile, or disassemble the Program.

**3. APPLICABLE LAW.** This License Agreement shall be interpreted and governed under the laws and in the state and federal courts of New Hampshire. You accept the personal jurisdiction and venue of the New Hampshire courts.

**4. EXPORT REQUIREMENTS.** You understand that Cabletron and its Affiliates are subject to regulation by agencies of the U.S. Government, including the U.S. Department of Commerce, which prohibit export or diversion of certain technical products to certain countries, unless a license to export the product is obtained from the U.S. Government or an exception from obtaining such license may be relied upon by the exporting party.

If the Program is exported from the United States pursuant to the License Exception CIV under the U.S. Export Administration Regulations, You agree that You are a civil end user of the Program and agree that You will use the Program for civil end uses only and not for military purposes.

---

If the Program is exported from the United States pursuant to the License Exception TSR under the U.S. Export Administration Regulations, in addition to the restriction on transfer set forth in Sections 1 or 2 of this Agreement, You agree not to (i) reexport or release the Program, the source code for the Program or technology to a national of a country in Country Groups D:1 or E:2 (Albania, Armenia, Azerbaijan, Belarus, Bulgaria, Cambodia, Cuba, Estonia, Georgia, Iraq, Kazakhstan, Kyrgyzstan, Laos, Latvia, Libya, Lithuania, Moldova, North Korea, the People's Republic of China, Romania, Russia, Rwanda, Tajikistan, Turkmenistan, Ukraine, Uzbekistan, Vietnam, or such other countries as may be designated by the United States Government), (ii) export to Country Groups D:1 or E:2 (as defined herein) the direct product of the Program or the technology, if such foreign produced direct product is subject to national security controls as identified on the U.S. Commerce Control List, or (iii) if the direct product of the technology is a complete plant or any major component of a plant, export to Country Groups D:1 or E:2 the direct product of the plant or a major component thereof, if such foreign produced direct product is subject to national security controls as identified on the U.S. Commerce Control List or is subject to State Department controls under the U.S. Munitions List.

**5. UNITED STATES GOVERNMENT RESTRICTED RIGHTS.** The enclosed Product (i) was developed solely at private expense; (ii) contains "restricted computer software" submitted with restricted rights in accordance with section 52.227-19 (a) through (d) of the Commercial Computer Software-Restricted Rights Clause and its successors, and (iii) in all respects is proprietary data belonging to Cabletron and/or its suppliers. For Department of Defense units, the Product is considered commercial computer software in accordance with DFARS section 227.7202-3 and its successors, and use, duplication, or disclosure by the Government is subject to restrictions set forth herein.

**6. EXCLUSION OF WARRANTY.** Except as may be specifically provided by Cabletron in writing, Cabletron makes no warranty, expressed or implied, concerning the Program (including its documentation and media).

CABLETRON DISCLAIMS ALL WARRANTIES, OTHER THAN THOSE SUPPLIED TO YOU BY CABLETRON IN WRITING, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE PROGRAM, THE ACCOMPANYING WRITTEN MATERIALS, AND ANY ACCOMPANYING HARDWARE.

**7. NO LIABILITY FOR CONSEQUENTIAL DAMAGES.** IN NO EVENT SHALL CABLETRON OR ITS SUPPLIERS BE LIABLE FOR ANY DAMAGES WHATSOEVER (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF BUSINESS, PROFITS, BUSINESS INTERRUPTION, LOSS OF BUSINESS INFORMATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR RELIANCE DAMAGES, OR OTHER LOSS) ARISING OUT OF THE USE OR INABILITY TO USE THIS CABLETRON PRODUCT, EVEN IF CABLETRON HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. BECAUSE SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, OR IN THE DURATION OR LIMITATION OF IMPLIED WARRANTIES IN SOME INSTANCES, THE ABOVE LIMITATION AND EXCLUSIONS MAY NOT APPLY TO YOU.

---

## **CABLETRON SYSTEMS SALES AND SERVICE, INC. PROGRAM LICENSE AGREEMENT**

**IMPORTANT: THIS LICENSE APPLIES FOR USE OF PRODUCT IN THE UNITED STATES OF AMERICA  
AND BY UNITED STATES OF AMERICA GOVERNMENT END USERS.**

**BEFORE OPENING OR UTILIZING THE ENCLOSED PRODUCT, CAREFULLY READ  
THIS LICENSE AGREEMENT.**

This document is an agreement ("Agreement") between You, the end user, and Cabletron Systems Sales and Service, Inc. ("Cabletron") that sets forth your rights and obligations with respect to the Cabletron software program ("Program") in the package. The Program may be contained in firmware, chips or other media. UTILIZING THE ENCLOSED PRODUCT, YOU ARE AGREEING TO BECOME BOUND BY THE TERMS OF THIS AGREEMENT, WHICH INCLUDES THE LICENSE AND THE LIMITATION OF WARRANTY AND DISCLAIMER OF LIABILITY. IF YOU DO NOT AGREE TO THE TERMS OF THIS AGREEMENT, RETURN THE UNOPENED PRODUCT TO CABLETRON OR YOUR DEALER, IF ANY, WITHIN TEN (10) DAYS FOLLOWING THE DATE OF RECEIPT FOR A FULL REFUND.

IF YOU HAVE ANY QUESTIONS ABOUT THIS AGREEMENT, CONTACT CABLETRON SYSTEMS  
+1-603-332-9400. Attn: Legal Department.

**1. LICENSE.** You have the right to use only the one (1) copy of the Program provided in this package subject to the terms and conditions of this License Agreement.

You may not copy, reproduce or transmit any part of the Program except as permitted by the Copyright Act of the United States or as authorized in writing by Cabletron.

**2. OTHER RESTRICTIONS.** You may not reverse engineer, decompile, or disassemble the Program.

**3. APPLICABLE LAW.** This License Agreement shall be interpreted and governed under the laws and in the state and federal courts of New Hampshire. You accept the personal jurisdiction and venue of the New Hampshire courts.

**4. EXPORT REQUIREMENTS.** You understand that Cabletron and its Affiliates are subject to regulation by agencies of the U.S. Government, including the U.S. Department of Commerce, which prohibit export or diversion of certain technical products to certain countries, unless a license to export the product is obtained from the U.S. Government or an exception from obtaining such license may be relied upon by the exporting party.

If the Program is exported from the United States pursuant to the License Exception CIV under the U.S. Export Administration Regulations, You agree that You are a civil end user of the Program and agree that You will use the Program for civil end uses only and not for military purposes.

If the Program is exported from the United States pursuant to the License Exception TSR under the U.S. Export Administration Regulations, in addition to the restriction on transfer set forth in Sections 1 or 2 of this Agreement, You agree not to (i) reexport or release the Program, the source code for the Program or technology to a national of a country in Country Groups D:1 or E:2 (Albania, Armenia, Azerbaijan, Belarus, Bulgaria, Cambodia, Cuba, Estonia, Georgia, Iraq, Kazakhstan, Kyrgyzstan, Laos, Latvia, Libya, Lithuania, Moldova, North Korea, the People's Republic of China, Romania, Russia, Rwanda, Tajikistan, Turkmenistan, Ukraine, Uzbekistan, Vietnam, or such other countries as may be designated by the United States Government), (ii) export to Country Groups D:1 or E:2 (as defined herein) the direct product of the Program or the technology, if such foreign produced direct product is subject to national security controls as identified on the U.S. Commerce Control List, or (iii) if the direct product of the technology is a complete plant or any major component of a plant, export to Country Groups D:1 or E:2 the direct product of the plant or a major component thereof, if such foreign produced direct product is subject to national security controls as identified on the U.S. Commerce Control List or is subject to State Department controls under the U.S. Munitions List.

---

**5. UNITED STATES GOVERNMENT RESTRICTED RIGHTS.** The enclosed Product (i) was developed solely at private expense; (ii) contains “restricted computer software” submitted with restricted rights in accordance with section 52.227-19 (a) through (d) of the Commercial Computer Software-Restricted Rights Clause and its successors, and (iii) in all respects is proprietary data belonging to Cabletron and/or its suppliers. For Department of Defense units, the Product is considered commercial computer software in accordance with DFARS section 227.7202-3 and its successors, and use, duplication, or disclosure by the Government is subject to restrictions set forth herein.

**6. EXCLUSION OF WARRANTY.** Except as may be specifically provided by Cabletron in writing, Cabletron makes no warranty, expressed or implied, concerning the Program (including its documentation and media).

CABLETRON DISCLAIMS ALL WARRANTIES, OTHER THAN THOSE SUPPLIED TO YOU BY CABLETRON IN WRITING, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE PROGRAM, THE ACCOMPANYING WRITTEN MATERIALS, AND ANY ACCOMPANYING HARDWARE.

**7. NO LIABILITY FOR CONSEQUENTIAL DAMAGES.** IN NO EVENT SHALL CABLETRON OR ITS SUPPLIERS BE LIABLE FOR ANY DAMAGES WHATSOEVER (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF BUSINESS, PROFITS, BUSINESS INTERRUPTION, LOSS OF BUSINESS INFORMATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR RELIANCE DAMAGES, OR OTHER LOSS) ARISING OUT OF THE USE OR INABILITY TO USE THIS CABLETRON PRODUCT, EVEN IF CABLETRON HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. BECAUSE SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, OR IN THE DURATION OR LIMITATION OF IMPLIED WARRANTIES IN SOME INSTANCES, THE ABOVE LIMITATION AND EXCLUSIONS MAY NOT APPLY TO YOU.



---

## **CABLETRON SYSTEMS LIMITED PROGRAM LICENSE AGREEMENT**

**IMPORTANT: THIS LICENSE APPLIES FOR THE USE OF THE PRODUCT IN THE FOLLOWING  
GEOGRAPHICAL REGIONS:**

**EUROPE  
MIDDLE EAST  
AFRICA  
ASIA  
AUSTRALIA  
PACIFIC RIM**

**BEFORE OPENING OR UTILIZING THE ENCLOSED PRODUCT, CAREFULLY READ  
THIS LICENSE AGREEMENT.**

This document is an agreement (“Agreement”) between You, the end user, and Cabletron Systems Limited (“Cabletron”) that sets forth your rights and obligations with respect to the Cabletron software program (“Program”) in the package. The Program may be contained in firmware, chips or other media. UTILIZING THE ENCLOSED PRODUCT, YOU ARE AGREEING TO BECOME BOUND BY THE TERMS OF THIS AGREEMENT, WHICH INCLUDES THE LICENSE AND THE LIMITATION OF WARRANTY AND DISCLAIMER OF LIABILITY. IF YOU DO NOT AGREE TO THE TERMS OF THIS AGREEMENT, RETURN THE UNOPENED PRODUCT TO CABLETRON OR YOUR DEALER, IF ANY, WITHIN TEN (10) DAYS FOLLOWING THE DATE OF RECEIPT FOR A FULL REFUND.

IF YOU HAVE ANY QUESTIONS ABOUT THIS AGREEMENT, CONTACT CABLETRON SYSTEMS  
+1-603-332-9400. Attn: Legal Department.

**1. LICENSE.** You have the right to use only the one (1) copy of the Program provided in this package subject to the terms and conditions of this License Agreement.

You may not copy, reproduce or transmit any part of the Program except as permitted by the Copyright Act of the United States or as authorized in writing by Cabletron.

**2. OTHER RESTRICTIONS.** You may not reverse engineer, decompile, or disassemble the Program.

**3. APPLICABLE LAW.** This License Agreement shall be governed in accordance with English law. The English courts shall have exclusive jurisdiction in the event of any disputes.

**4. EXPORT REQUIREMENTS.** You understand that Cabletron and its Affiliates are subject to regulation by agencies of the U.S. Government, including the U.S. Department of Commerce, which prohibit export or diversion of certain technical products to certain countries, unless a license to export the product is obtained from the U.S. Government or an exception from obtaining such license may be relied upon by the exporting party.

If the Program is exported from the United States pursuant to the License Exception CIV under the U.S. Export Administration Regulations, You agree that You are a civil end user of the Program and agree that You will use the Program for civil end uses only and not for military purposes.

---

If the Program is exported from the United States pursuant to the License Exception TSR under the U.S. Export Administration Regulations, in addition to the restriction on transfer set forth in Sections 1 or 2 of this Agreement, You agree not to (i) reexport or release the Program, the source code for the Program or technology to a national of a country in Country Groups D:1 or E:2 (Albania, Armenia, Azerbaijan, Belarus, Bulgaria, Cambodia, Cuba, Estonia, Georgia, Iraq, Kazakhstan, Kyrgyzstan, Laos, Latvia, Libya, Lithuania, Moldova, North Korea, the People's Republic of China, Romania, Russia, Rwanda, Tajikistan, Turkmenistan, Ukraine, Uzbekistan, Vietnam, or such other countries as may be designated by the United States Government), (ii) export to Country Groups D:1 or E:2 (as defined herein) the direct product of the Program or the technology, if such foreign produced direct product is subject to national security controls as identified on the U.S. Commerce Control List, or (iii) if the direct product of the technology is a complete plant or any major component of a plant, export to Country Groups D:1 or E:2 the direct product of the plant or a major component thereof, if such foreign produced direct product is subject to national security controls as identified on the U.S. Commerce Control List or is subject to State Department controls under the U.S. Munitions List.

**5. UNITED STATES GOVERNMENT RESTRICTED RIGHTS.** The enclosed Product (i) was developed solely at private expense; (ii) contains "restricted computer software" submitted with restricted rights in accordance with section 52.227-19 (a) through (d) of the Commercial Computer Software-Restricted Rights Clause and its successors, and (iii) in all respects is proprietary data belonging to Cabletron and/or its suppliers. For Department of Defense units, the Product is considered commercial computer software in accordance with DFARS section 227.7202-3 and its successors, and use, duplication, or disclosure by the Government is subject to restrictions set forth herein.

**6. EXCLUSION OF WARRANTY.** Except as may be specifically provided by Cabletron in writing, Cabletron makes no warranty, expressed or implied, concerning the Program (including its documentation and media).

CABLETRON DISCLAIMS ALL WARRANTIES, OTHER THAN THOSE SUPPLIED TO YOU BY CABLETRON IN WRITING, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE PROGRAM, THE ACCOMPANYING WRITTEN MATERIALS, AND ANY ACCOMPANYING HARDWARE.

**7. NO LIABILITY FOR CONSEQUENTIAL DAMAGES.** IN NO EVENT SHALL CABLETRON OR ITS SUPPLIERS BE LIABLE FOR ANY DAMAGES WHATSOEVER (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF BUSINESS, PROFITS, BUSINESS INTERRUPTION, LOSS OF BUSINESS INFORMATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR RELIANCE DAMAGES, OR OTHER LOSS) ARISING OUT OF THE USE OR INABILITY TO USE THIS CABLETRON PRODUCT, EVEN IF CABLETRON HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. BECAUSE SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, OR IN THE DURATION OR LIMITATION OF IMPLIED WARRANTIES IN SOME INSTANCES, THE ABOVE LIMITATION AND EXCLUSIONS MAY NOT APPLY TO YOU.

---

## DECLARATION OF CONFORMITY

Application of Council Directive(s): **89/336/EEC**  
**73/23/EEC**

Manufacturer's Name: **Cabletron Systems, Inc.**

Manufacturer's Address: **35 Industrial Way**  
**PO Box 5005**  
**Rochester, NH 03867**

European Representative Name: **Mr. J. Solari**

European Representative Address: **Cabletron Systems Limited**  
**Nexus House, Newbury Business Park**  
**London Road, Newbury**  
**Berkshire RG14 2PZ, England**

Conformance to Directive(s)/Product Standards: **EC Directive 89/336/EEC**  
**EC Directive 73/23/EEC**  
**EN 55022**  
**EN 50082-1**  
**EN 60950**

Equipment Type/Environment: **Networking Equipment, for use in a Commercial**  
**or Light Industrial Environment.**

We the undersigned, hereby declare, under our sole responsibility, that the equipment packaged with this notice conforms to the above directives.

Manufacturer

Mr. Ronald Fotino

Full Name

Compliance Engineering Manager

Title

Rochester, NH, USA

Location

Legal Representative in Europe

Mr. J. Solari

Full Name

Managing Director - E.M.E.A.

Title

Newbury, Berkshire, England

Location



---

# Contents

Figures .....	xiii
Tables .....	xiv

## ABOUT THIS GUIDE

Using This Guide .....	xv
Structure of This Guide .....	xv
Related Documents .....	xvi
Document Conventions .....	xvii

# 1

## INTRODUCTION

1.1	Overview .....	1-1
1.1.1	Connectivity .....	1-2
1.1.2	Full Duplex Switched Ethernet .....	1-2
1.1.3	Standard/Full Duplex Auto-Negotiation .....	1-3
1.1.4	Runtime IP Address Discovery .....	1-3
1.1.5	SmartTrunk .....	1-3
1.1.6	Remote Monitoring (RMON) .....	1-4
1.1.7	Broadcast Suppression .....	1-4
1.1.8	Port/VLAN Redirect Functions .....	1-4
1.1.9	Traffic Rate Limiting .....	1-5
1.1.10	Flow Control .....	1-5
1.1.11	GARP Switch Operation .....	1-6
1.1.12	802.1 Port Priority .....	1-6
1.1.13	Management .....	1-6
1.1.14	Switching Options .....	1-6
1.1.15	Optional HSIMs and VHSIMs .....	1-7
1.1.16	Standards Compatibility .....	1-7
1.1.17	Year 2000 Compliance .....	1-7
1.1.18	LANVIEW Diagnostic LEDs .....	1-7
1.2	Getting Help .....	1-8

# 2

## NETWORK REQUIREMENTS

2.1	SmartTrunk .....	2-1
2.2	10BASE-T Network .....	2-1

<b>3</b>	<b>INSTALLATION</b>	
3.1	Unpacking the Device .....	3-2
3.2	Installing Options.....	3-2
3.3	Installing the Device .....	3-3
3.3.1	Tabletop or Shelf Installation .....	3-3
3.3.2	Rackmount Installation.....	3-4
3.3.3	Connecting Power.....	3-7
3.4	Connecting to the Network.....	3-8
3.5	Completing the Installation.....	3-10
<b>4</b>	<b>TROUBLESHOOTING</b>	
4.1	Using LANVIEW.....	4-1
4.2	Troubleshooting Checklist.....	4-5
4.3	Using the RESET Button.....	4-7
<b>A</b>	<b>SPECIFICATIONS</b>	
A.1	Device Specifications .....	A-1
A.2	Physical Properties .....	A-1
A.3	Electrical Specifications .....	A-2
A.4	Environmental Requirements.....	A-2
A.5	Input/Output Ports .....	A-2
A.6	COM Port Pinout Assignments .....	A-3
A.7	Regulatory Compliance.....	A-3
<b>B</b>	<b>OPTIONAL INSTALLATIONS AND MODE SWITCH BANK SETTINGS</b>	
B.1	Required Tools.....	B-1
B.2	Removing the Chassis Cover.....	B-2
B.3	Setting the Mode Switches.....	B-5
B.4	SIMM Upgrade.....	B-6
B.4.1	Locating SIMMs .....	B-7
B.4.2	Installing the DRAM SIMM.....	B-8
B.5	Installing Optional HSIM or VHSIM Interface Modules .....	B-9

**INDEX**

---

# Figures

Figure		Page
1-1	2E253-49R SmartSwitch 2200 Device .....	1-1
3-1	Tabletop or Shelf Installation .....	3-4
3-2	Attaching the Strain-Relief Bracket .....	3-5
3-3	Attaching the Rackmount Brackets .....	3-6
3-4	Installing the Device in a Rack .....	3-7
3-5	2E253-49R Rear View .....	3-8
3-6	Straight Cable Connection .....	3-9
3-7	Connection Using the RJ21 Angle Adapter .....	3-9
4-1	LANVIEW LEDs .....	4-1
4-2	RESET Button .....	4-7
B-1	Removing the Chassis Cover .....	B-4
B-2	Mode Switch Location .....	B-5
B-3	DRAM SIMM connector Location .....	B-7
B-4	Installing the DRAM .....	B-8
B-5	HSIM and VHSIM Connector Locations .....	B-9

---

# Tables

Table		Page
3-1	Contents of 2E253-49R Carton.....	3-2
4-1	LANVIEW LEDs .....	4-2
4-2	Troubleshooting Checklist .....	4-5
A-1	COM Port Pin Assignments .....	A-3



---

# About This Guide

Welcome to the **2E253-49R SmartSwitch 2200 Installation User's Guide**. This guide describes the 2E253-49R SmartSwitch 2200 device and provides information concerning network requirements, installation, and troubleshooting. For information about how to use Local Management to configure and manage the 2E253-49R, refer to the Cabletron Systems *SmartSwitch Series 2E253, 2H252, 2H253, and 2H258 Local Management User's Guide*.

---

## Important Notice

Depending on the firmware version used in the 2E253-49R, some features described in this document may not be supported. Refer to the Release Notes shipped with the 2E253-49R to determine which features are supported.

---

## USING THIS GUIDE

Read through this part of the guide first for information on how to use this guide and for a list of technology and user's guides that may help in setting up and managing the 2E253-49R. Then read the remainder of this guide completely to understand the 2E253-49R capabilities and how to install it.

A general working knowledge of Ethernet and IEEE 802.3 type data communications networks and their physical layer components is helpful when using this device.



In this document, the device is referred to as either the "2E253-49R" or the "device".

## STRUCTURE OF THIS GUIDE

This guide is organized as follows:

**Chapter 1, Introduction**, provides an overview of the 2E253-49R and its features. Directions for obtaining additional information or help from Cabletron Systems are also included in this chapter.

**Chapter 2, Network Requirements**, explains the network requirements that must be met before installing the 2E253-49R.

**Chapter 3, Installation**, provides instructions on how to install the 2E253-49R and connect segments to the device.

**Chapter 4, Troubleshooting**, describes the function of the LANVIEW LEDs, which can help to quickly diagnose network/operational problems.

**Appendix A, Specifications**, contains information on functionality and operating specifications, connector pinouts, environmental requirements, and physical properties.

**Appendix B, Optional Installations and Mode Switch Bank Settings**, describes how to remove the cover from the device, set the Mode Switch, and shows the location of an optional High Speed Interface Module (HSIM) or Very High Speed Interface Module (VHSIM).

## RELATED DOCUMENTS

The following Cabletron Systems documents may help to set up and manage the 2E253-49R:

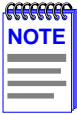
- *SmartSwitch Series 2E253, 2H252, 2H253, and 2H258 Local Management User's Guide*
- *Ethernet Technology Guide*
- *Cabling Guide*
- *SmartTrunk User's Guide*
- *WAN Series Local Management User's Guide*

The following are Cabletron Systems documents associated with optional interface modules:

- *HSIM-A6DP User's Guide*
- *HSIM-F6 User's Guide*
- *HSIM-FE6 User's Guide*
- *HSIM-W6 Installation Guide*
- *HSIM-W84 Installation Guide*
- *HSIM-W87 User's Guide*
- *HSIM-G01/G09 User's Guide*
- *VHSIM-G6 User's Guide*
- *VHSIM-A6DP User's Guide*

The *HSIM-W6 Installation Guide*, the *HSIM-W84 Installation Guide*, and the *WAN Series Local Management User's Guide* are contained on the QuickSET CD-ROM and, along with the other manuals listed above, can be obtained from the World Wide Web in Adobe Acrobat Portable Document Format (PDF) at the following site:

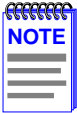
**<http://www.cabletron.com/>**



All documentation for the Cabletron Systems SecureFast VLAN Manager software is contained on the VLAN Manager CD-ROM.

## DOCUMENT CONVENTIONS

The guide uses the following conventions:



**Note** symbol. Calls the reader's attention to any item of information that may be of special importance.



**Tip** symbol. Conveys helpful hints concerning procedures or actions.



**Caution** symbol. Contains information essential to avoid damage to the equipment.



**Electrical Hazard Warning** symbol. Warns against an action that could result in personal injury or death due to an electrical hazard.



**Warning** symbol. Warns against an action that could result in personal injury or death.



# Introduction

This chapter introduces the 2E253-49R SmartSwitch 2200 device and provides information about how to obtain additional support from Cabletron Systems.

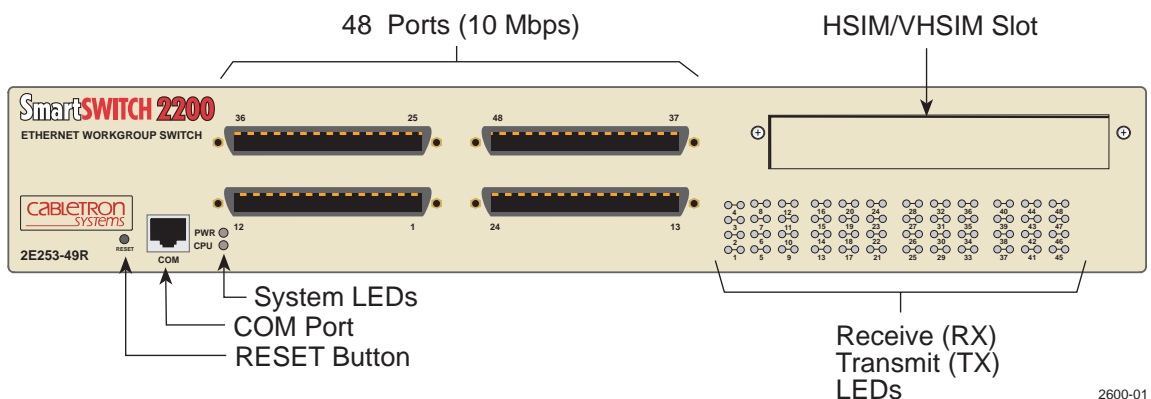
## Important Notice

Depending on the firmware version used in the 2E253-49R, some features described in this document may not be supported. Refer to the Release Notes shipped with the 2E253-49R to determine which features are supported.

## 1.1 OVERVIEW

The 2E253-49R (Figure 1-1) is a standalone device that has 48 10BASE-T switched ports connected through 4 RJ21 front panel connectors, and 1 slot that can support either an optional High Speed Interface Module (HSIM) or a Very High Speed Interface Module (VHSIM). The HSIMs and VHSIMs are available from Cabletron Systems.

Each of the 48 10BASE-T switched ports can operate in either standard or full duplex mode of operation. Full duplex mode is the default mode as determined by auto-negotiation. Full duplex can also be manually configured.



**Figure 1-1 2E253-49R SmartSwitch 2200 Device**

The 2E253-49R is a 48-port high-speed network switching device that supports traditional switching (bridging) and Cabletron Systems SecureFast Switching Virtual Network technology. The optional HSIMs provide one or more additional ports for high speed uplinks to networking technologies such as Fast Ethernet, Gigabit Ethernet, Fiber Distributed Data Interface (FDDI), Wide Area Networks (WANs), and Asynchronous Transfer Mode (ATM). The HSIMs also provide additional Fast Ethernet ports in varying media types. The optional VHSIMs provide very high speed uplinks to networking technologies such as Gigabit Ethernet and ATM.

The 2E253-49R ports can be configured to control frame traffic in several ways, including prioritizing traffic flow according to protocol type. The 2E253-49R can also be configured to establish Virtual Local Area Networks (VLANs) and control the flow of frames associated with each VLAN according to priority and Ether type. Detailed information about VLANs is provided in the Cabletron Systems *SmartSwitch Series 2E253, 2H252, 2H253, and 2H258 Local Management User's Guide*.

The 2E253-49R may be used as a tabletop unit or can be installed in a standard 19-inch rack using the supplied rack mounting hardware.

The 2E253-49R has two universal ac power supplies with automatic voltage sensing that allows operation using 100–125 or 200–240 Vac, 50/60 Hz. The power supplies load share 50% (+/-5%) of the power required by the device. If one power supply fails, the remaining power supply assumes the entire load of the device without interruption to network traffic. Each power supply module supports its own ac input connection, which allows the user to connect each power supply to a different ac power circuit.

### 1.1.1 Connectivity

The 2E253-49R connects to Ethernet networks or workstations through four 50-pin RJ21 connectors. Each connector is wired for 12 ports. These ports support Unshielded Twisted Pair (UTP) cables with an impedance between 85 and 111 ohms at lengths up to 100 meters. The ports are IEEE 802.3 10BASE-T compliant.

The device also has a slot for an optional HSIM or VHSIM to provide additional connectivity to various networking technologies.

### 1.1.2 Full Duplex Switched Ethernet

Each switched Ethernet port supports full Ethernet communications and can be configured to operate in Full Duplex Switched Ethernet (FDSE) mode. FDSE allows each port to provide a dedicated 20 Mbps bandwidth for file server or high-end workstation connections.

### 1.1.3 Standard/Full Duplex Auto-Negotiation

Ports 1 through 48 on the 2E253-49R have the ability to auto-negotiate the port mode of operation (standard [half duplex] or full duplex) between two devices according to the 802.3x standard. Full duplex mode is the default mode of operation for each port. During Auto-Negotiation, two devices automatically exchange information “telling” each other their current operating mode. The Auto-Negotiation feature targets the maximum capability that can be reached between the two devices. For example, the 2E253-49R can adjust to full duplex operation when the device on the other end of the connection can also adjust from standard to full duplex. If the device on the other end of the connection can only operate in standard mode, then the 2E253-49R simply adjusts to operate to the standard mode.

### 1.1.4 Runtime IP Address Discovery

This feature enables the 2E253-49R device to automatically accept an IP address from a Boot Strap Protocol (BootP) server on the network into NVRAM without requiring a user to enter an IP address through Local Management.

When the device is connected to the network and powered up, Runtime IP Address Discovery (RAD) checks the device for an IP address. If one has not yet been assigned (device IP address set to 0.0.0.0), RAD checks to see if any of the device interfaces have a link. If so, RAD sends out Reverse Address Resolution Protocol (RARP) and BootP requests to obtain an IP address from a BootP server on the network.

The RAD requests start at an interval of 1 per second. The interval then doubles after every transmission until an interval of 300 seconds is reached. At this point, the interval remains at 300 seconds. The RAD requests continue until an IP address is received from an RARP or BootP server, or an IP address is entered using Local Management.



The 2E253-49R will reboot after RAD is successful.

### 1.1.5 SmartTrunk

Traditional 802.1D Spanning Tree Bridges only allow one active data path between any two switches; all other parallel data paths are in Standby or Blocking mode. If one interface or path should fail, then the other interface automatically comes out of Blocking mode and forwards all of the traffic. This is fine for redundancy purposes. However, it is not the most efficient use of resources.

SmartTrunk, also referred to as SmartTrunking, is Cabletron Systems' terminology for load balancing or load sharing. SmartTrunk provides the ability to take full advantage of the network's redundant bandwidth. SmartTrunk divides network traffic across multiple ports in parallel to provide additional throughput. The SmartTrunk application can be used with any of Cabletron Systems' switch modules (except ATM modules).

For more information about SmartTrunk and how to configure it in the SmartSwitch, refer to the Cabletron Systems *SmartTrunk User's Guide*.

### 1.1.6 Remote Monitoring (RMON)

The 2E253-49R supports all nine Ethernet RMON groups. The Statistics, Alarms, Events and History groups are enabled on all ports by default.

Cabletron Systems RMON Actions is a vendor-specific extension of RMON and provides the ability to set an "Action" on any SNMP MIB variable. The Action can be triggered by any RMON Event and/or Alarm. An example of an Action would be to turn off a MIB-2 interface if a broadcast threshold is crossed.

### 1.1.7 Broadcast Suppression

Broadcast Suppression enables a user to set a desired limit of receive broadcast frames per port/per second to be forwarded out the other ports on the device. Any broadcast frames above this specified limit are dropped. In the event that broadcast frames are being suppressed, multicast and unicast frames continue to be switched.

### 1.1.8 Port/VLAN Redirect Functions

The port redirect function, also referred to as "Port Mirroring," is a troubleshooting tool used to map traffic from a single source port to a single destination port within the device. This feature allows frames, including those with errors, to be copied and sent to an analyzer or RMON probe. The analyzer or RMON probe will see the data as if it were directly connected to the LAN segment of the source port.

The VLAN redirect function is similar to the port redirect function except that the frames received by the device are redirected to a designated destination port according to the VLAN classification of the frames received. Multiple VLANs can be directed to the same destination port. The VLAN redirect function is only supported when the device is operating as an 802.1Q switch.



### 1.1.9 Traffic Rate Limiting

The Rate Limiting feature enables the SmartSwitch device to have control over traffic rates on a per-port, per-priority basis. The network administrator can configure a rate limit (from 100 kbps to 1 Gbps) for a given port with an associated list of IEEE 802.1p priorities (which can include one, some, or all of the eight priority levels defined in 802.1p). Each rate limit is specified as an inbound or an outbound limit. The combined rate of all traffic on the port that matches the listed priorities cannot exceed the programmed limit. If the rate exceeds the defined limit, frames are dropped until the rate falls below the limit.

Administrators can configure up to four rate limit rules per port; however, each rule must not include conflicting 802.1p priority values. In order to control traffic inbound and outbound on the same port, two rate limit rules must be configured (one inbound and one outbound). Since the rate limiting operation occurs after the processing of the multi-layer classification rules, the two features can be combined to provide application-aware rate limiting.



This rate limiting function is not supported on ports connected to SmartTrunk ports.

For more information about the application of rate limiting, refer to *SmartSwitch Series 2E253, 2H252, 2H253, and 2H258 Local Management User's Guide*.

### 1.1.10 Flow Control

Flow control is a method of managing the flow of frames between two devices. It ensures that a transmitting device does not overwhelm a receiving device with data. This is accomplished by the transmitting device pausing its transmission while the receiving device processes the frames already received.

The 2E253-49R supports the following two types of flow control:

- Frame based 802.3x
- Back pressure

Frame based 802.3x flow control is supported on all Ethernet ports operating in the full duplex mode. Flow control can be enabled or disabled on a port-by-port basis.

Back pressure flow control is supported on all Ethernet ports operating in the standard mode of operation. Flow control can be enabled or disabled on a port-by-port basis.

### 1.1.11 GARP Switch Operation

Some or all ports on the switch may be activated to operate under the Generic Attribute Registration Protocol (GARP) applications, GARP VLAN Registration Protocol (GVRP) and/or GARP Multicast Registration Protocol (GMRP).

GARP is a protocol, or set of rules, that outlines a mechanism for propagating the port state and/or user information throughout a bridged LAN to keep track of users and VLANs on the network fabric. MAC bridges and end users alike can take part in the registration and de-registration of GARP attributes such as VLAN and multicast group membership. For more details on how GVRP and GMRP handle frames under GARP, and how to configure the switch ports to take advantage of this operation, refer to the Cabletron Systems *SmartSwitch Series 2E253, 2H252, 2H253, and 2H258 Local Management User's Guide*.

### 1.1.12 802.1 Port Priority

The 802.1 port priority is used to assign a default priority to the frames received without priority information in their tag header, map prioritized frames to the appropriate transmit queues, and prioritize frames according to protocol type. The 802.1 port priority is part of the IEEE 802.1D standard.

### 1.1.13 Management

Management of the 2E253-49R is accomplished using SNMP compliant management tools for in-band Local Management. Out-of-band Local Management is provided through the RJ45 COM port on the front panel using a VT100 terminal or a VT100 terminal emulator. In-band remote management is possible through any SNMP compliant Network Management Software.

Local Management described in the Cabletron Systems *SmartSwitch Series 2E253, 2H252, 2H253, and 2H258 Local Management User's Guide* provides the ability to manage the 2E253-49R, and optional HSIMs and VHSIMs that support Ethernet. For information about Local Management for optional non-Ethernet HSIMs or VHSIMs, refer to their respective user's guide.

### 1.1.14 Switching Options

The 2E253-49R provides 802.1Q switching or SecureFast Switching Virtual Network Services between all of the front panel interfaces including the optional HSIM or VHSIM interface. In the 802.1Q mode (the default mode of operation), the 2E253-49R functions as an 802.1D switch until VLANs are configured.

IEEE 802.1Q switching and SecureFast switching allow migration to Virtual Network technologies without requiring the replacement of existing equipment.

### **1.1.15 Optional HSIMs and VHSIMs**

Optional HSIMs and VHSIMs are available from Cabletron Systems for additional connectivity to various networking technologies. The HSIMs and VHSIMs available for the 2E253-49R are listed in the Release Notes shipped with the device.

### **1.1.16 Standards Compatibility**

The 2E253-49R is fully compliant with the IEEE 802.3, 802.3u, 802.3x, 802.1D, and 802.1Q standards. The 2E253-49R provides IEEE 802.1D Spanning Tree Algorithm (STA) support to enhance the overall reliability of the network and protect against “loop” conditions. The 2E253-49R supports a wide variety of industry standard MIBs including RFC 1213 (MIB II), RFC 1757 (RMON), RFC 1493 (Bridge MIB), RFC 1354 (FIB MIB), and RFC 1190 (Path MTU Discovery). A full suite of Cabletron Systems Enterprise MIBs provide a wide array of statistical information to enhance troubleshooting. For information on how to extract and compile individual MIBs, contact Cabletron Systems.

### **1.1.17 Year 2000 Compliance**

The 2E253-49R has an internal clock that can maintain the current time and date beyond the year 1999.

### **1.1.18 LANVIEW Diagnostic LEDs**

LANVIEW diagnostic LEDs serve as an important troubleshooting aid by providing an easy way to observe the status of individual ports and overall network operations.

## 1.2 GETTING HELP

For additional support related to this device or document, contact Cabletron Systems using one of the following methods:

World Wide Web	<a href="http://www.cabletron.com/">http://www.cabletron.com/</a>
Phone	(603) 332-9400
Internet mail	<a href="mailto:support@cabletron.com">support@cabletron.com</a>
FTP	<a href="ftp://ftp.cabletron.com/">ftp://ftp.cabletron.com/</a>
Login	anonymous
Password	your email address

To send comments or suggestions concerning this document, contact the Cabletron Systems Technical Writing Department via the following email address: **TechWriting@cabletron.com**

Make sure to include the document Part Number in the email message.

---

**Before calling Cabletron Systems, have the following information ready:**

- Your Cabletron Systems service contract number
- A description of the failure
- A description of any action(s) already taken to resolve the problem (e.g., changing mode switches, rebooting the unit, etc.)
- The serial and revision numbers of all involved Cabletron Systems products in the network
- A description of your network environment (layout, cable type, etc.)
- Network load and frame size at the time of trouble (if known)
- The device history (i.e., have you returned the device before, is this a recurring problem, etc.)
- Any previous Return Material Authorization (RMA) numbers

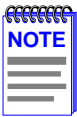
---

## Network Requirements

Before installing the 2E253-49R, review the requirements and specifications referred to in this chapter concerning the following:

- SmartTrunk (Section 2.1)
- 100BASE-T Twisted Pair Network (Section 2.2)

The network installation must meet the requirements to ensure satisfactory performance of this equipment. Failure to do so will produce poor network performance.



The Cabletron Systems *SmartTrunk User's Guide* and *Cabling Guide* referred to in the following sections can be found on the Cabletron Systems World Wide Web site:  
**<http://www.cabletron.com/>**

### 2.1 SmartTrunk

To connect the 2E253-49R to a network so it can take advantage of the SmartTrunk feature, there are certain rules concerning port connections and configurations that must be followed for proper operation. Refer to the Cabletron Systems *SmartTrunk User's Guide* for additional information.

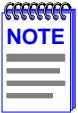
### 2.2 10BASE-T NETWORK

When connecting a 10BASE-T segment to any of the 2E253-49R ports (1 through 48), ensure that the network meets the Ethernet network requirements of the IEEE 802.3 standard for 10BASE-T. Refer to the Cabletron Systems *Cabling Guide* for details.





Only qualified personnel should install the 2E253-49R.



Read the Release Notes shipped with the device to check for any exceptions to the supported features and operation documented in this guide.

This chapter provides the instructions required to install the 2E253-49R. A Phillips screwdriver is required to install options into the device or install the device into a rack. Follow the order of the sections listed below to correctly install the device.

- Unpacking the Device ([Section 3.1](#))
- Installing Options ([Section 3.2](#))
- Installing the Device (on a shelf or tabletop, or into a standard rack) ([Section 3.3](#))
- Connecting to the Network ([Section 3.4](#))
- Completing the Installation ([Section 3.5](#))

### 3.1 UNPACKING THE DEVICE

Unpack the device as follows:

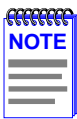
1. Open the box and remove the packing material protecting the 2E253-49R.
2. Verify the contents of the carton as listed in [Table 3-1](#).

**Table 3-1 Contents of 2E253-49R Carton**

Item	Quantity
2E253-49R	1
Antistatic Wrist Strap	1
Console Cable Kit	1
RJ21 Angle Adapter	4
Rackmount Kit	1
Strain-Relief Bracket	1
Manual Accessory Kit	1
Power Cord	2

3. Remove the tape seal on the non-conductive bag to remove the 2E253-49R.
4. Perform a visual inspection of the device for any signs of physical damage. Contact Cabletron Systems if there are any signs of damage. Refer to [Section 1.2](#) for details.

### 3.2 INSTALLING OPTIONS



Install any optional equipment before proceeding to [Section 3.3](#).

If the 2E253-49R is to be installed with an optional HSIM or VHSIM, refer to the user’s guide of that device for the installation instructions. To install an optional SIMM, refer to [Appendix B](#).



### 3.3 INSTALLING THE DEVICE

The 2E253-49R may be installed on a tabletop, shelf, or in a 19-inch rack. [Section 3.3.1](#) describes a tabletop or shelf installation and [Section 3.3.2](#) describes the rackmount installation.



To prevent possible personal injury and/or damage to the unit, do **NOT** connect power to the 2E253-49R until instructed to do so.

#### 3.3.1 Tabletop or Shelf Installation

The following two subsections provide guidelines for installation on a tabletop or shelf.

##### Guidelines for Tabletop and Shelf Installations

Tabletop and shelf installations must be within reach of the network cabling and meet the requirements listed below:

- The 2E253-49R must be located within seven feet of two grounded power receptacles that meet the power supply requirements listed in [Appendix A](#).
- In a shelf installation, the shelf must support 13.5 kg (30 lb) of static weight for each 2E253-49R.
- The temperature at the installation site must be maintained between 5°C (41°F) and 40°C (104°F) with fluctuations of less than 10°C (18°F) per hour.
- A clearance of 2 inches must be maintained from the left, right, and rear sides of the device to provide adequate ventilation.

##### Installation

For a tabletop or shelf installation, locate the 2E253-49R within seven feet of its power source and on an unrestricted free surface area as shown in [Figure 3-1](#). Proceed to [Section 3.3.3](#) for power connection instructions.



To ensure proper ventilation and prevent overheating, leave a minimum clearance space of 5.1 cm (2.0 in) at the left, right, and rear of the 2E253-49R, as shown in [Figure 3-1](#).

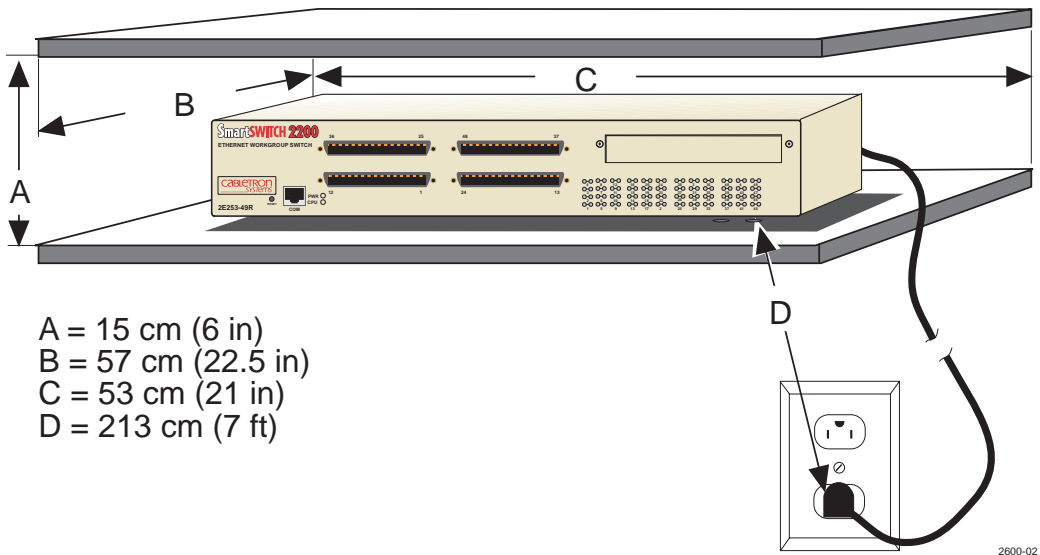


Figure 3-1 Tabletop or Shelf Installation

### 3.3.2 Rackmount Installation

To install the 2E253-49R in a 19-inch rack, Cabletron Systems includes a strain-relief bracket for cable management and an accessory kit containing the rackmount brackets, and mounting screws to attach the rackmount brackets and strain-relief bracket.

#### Guidelines for the Rackmount Installation

The installation site must be within reach of the network cabling and meet the requirements listed below:

- An appropriate grounded power receptacle must be located within seven feet of the location.
- Maintain a temperature of between 5°C (41°F) and 40°C (104°F) at the installation site with fluctuations of less than 10°C (18°F) per hour.



To ensure proper ventilation and prevent overheating, leave a minimum clearance space of 5.1 cm (2.0 in) at the left, right, and rear of the 2E253-49R.



Before installing the 2E253-49R into a rack, ensure that the rack supports the device(s) without compromising the stability of the rack. Otherwise, personal injury and/or equipment damage may result.

## Installation

Rack mounting the 2E253-49R involves the following:

- Attaching the strain-relief bracket
- Rack mounting the 2E253-49R (attaching the mounting brackets and fastening the device to the rack)

### Attaching the Strain-Relief Bracket

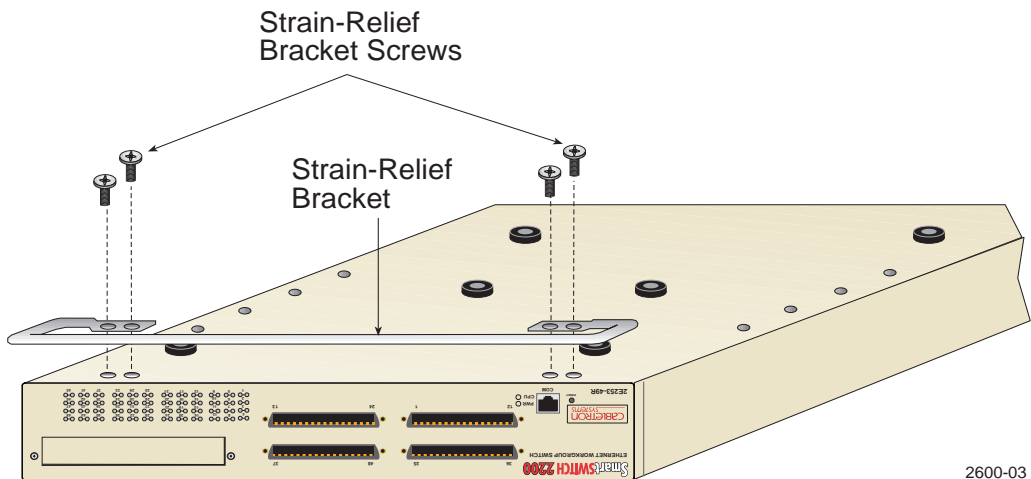
Attach the strain-relief bracket to the 2E253-49R as follows:

1. Locate the strain-relief bracket and four 8-32 x 5/16-inch pan-head screws in the rackmount kit.



Do not attempt to attach the strain-relief bracket with screws other than the 8-32 x 5/16-inch screws included with the 2E253-49R. Use of longer screws may damage the unit.

2. Place the 2E253-49R upside down (as shown in [Figure 3-2](#)) on a clean flat surface. Then attach the strain-relief bracket to the bottom of the 2E253-49R using the four 8-32 x 5/16-inch pan-head screws.



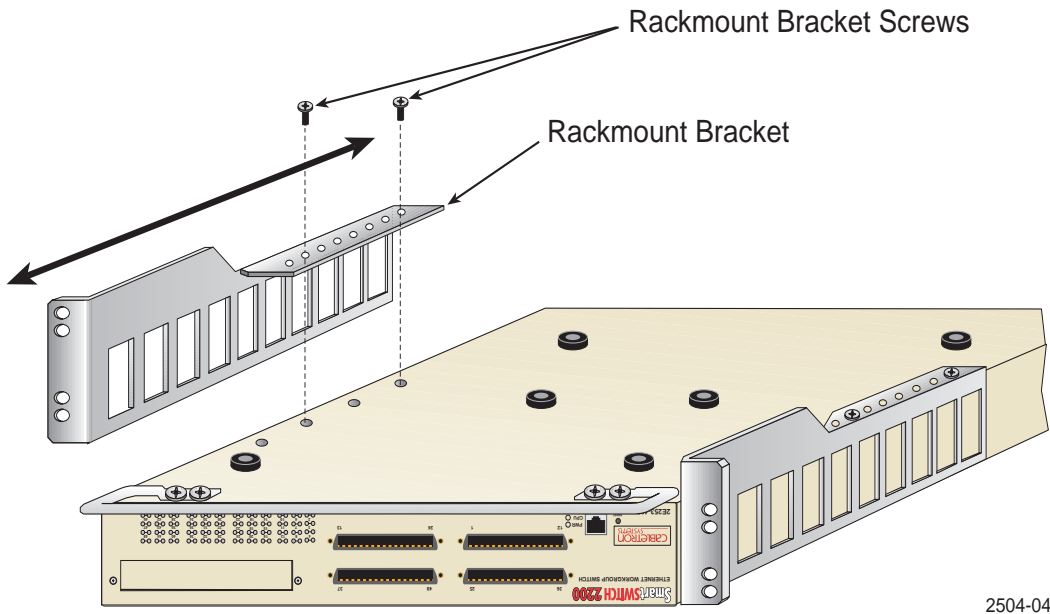
2600-03

**Figure 3-2 Attaching the Strain-Relief Bracket**

## Rack Mounting the 2E253-49R

Proceed as follows to install the 2E253-49R into a 19-inch rack:

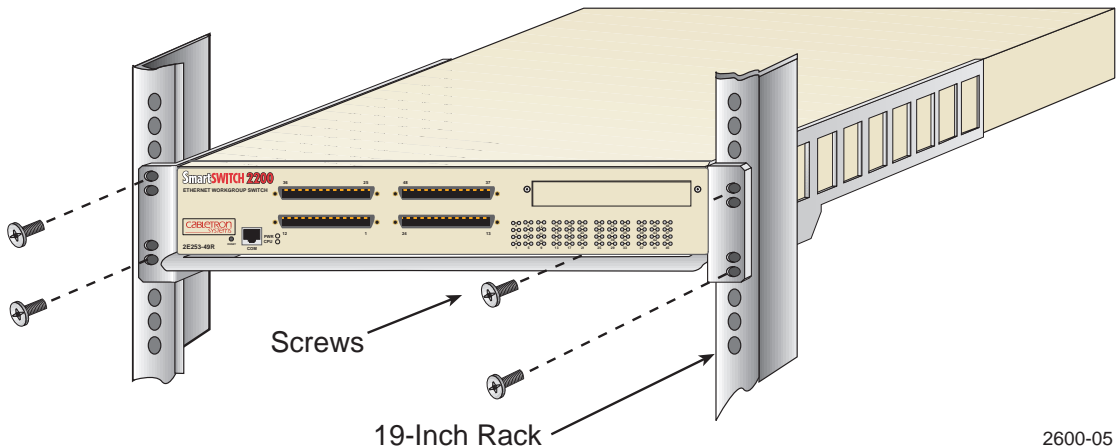
1. There are several mounting holes in the rackmount brackets and the bottom of the chassis. These mounting holes allow each mounting bracket to be adjusted forward or backward to mount the device further into, or out of the rack, depending on the installation requirements. Position the rackmount brackets over the appropriate holes.
2. Locate the four 6-32 x 1/4-inch flathead screws in the rackmount kit. Use these screws to attach the rackmount brackets to the bottom of the 2E253-49R as shown in [Figure 3-3](#).



2504-04

**Figure 3-3 Attaching the Rackmount Brackets**

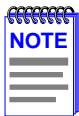
3. With the mounting brackets attached, position the 2E253-49R between the vertical frame members of the 19-inch rack and fasten it securely with mounting screws as shown in [Figure 3-4](#).



2600-05

**Figure 3-4 Installing the Device in a Rack**

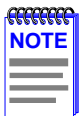
### 3.3.3 Connecting Power



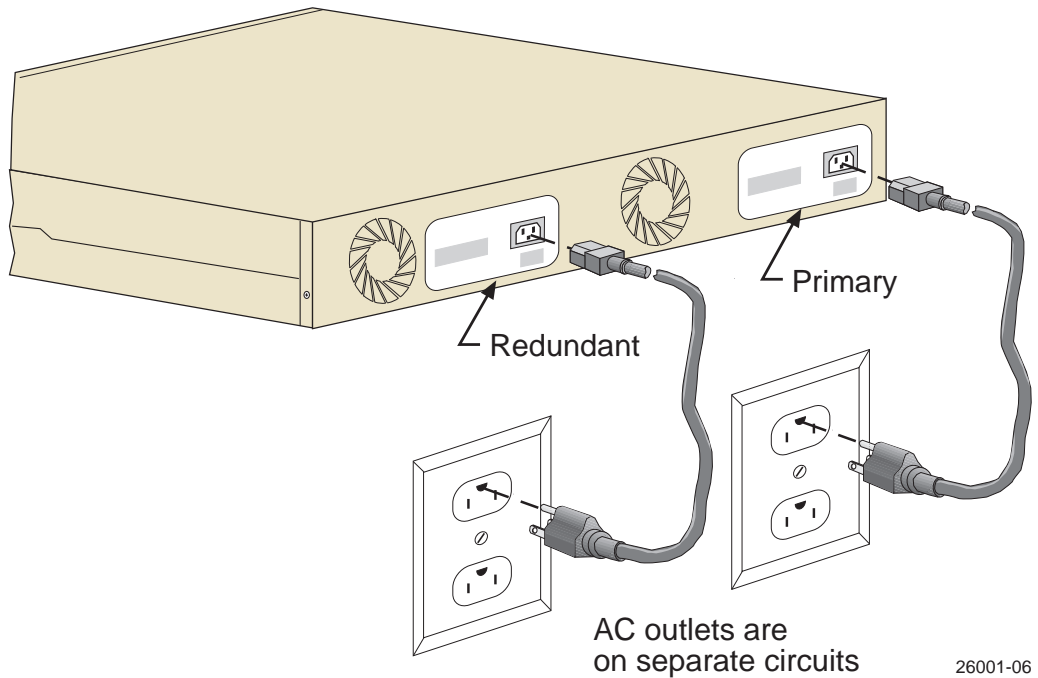
The two power supplies in the 2E253-49R have automatic voltage sensing that allows connection to power sources ranging from 100–125 Vac, 2.5 A or 200–240 Vac, 1.25 A, 50/60 Hz.

To connect the 2E253-49R to the power sources, proceed as follows:

1. Plug each power cord into a grounded wall outlet, see [Figure 3-5](#). To take advantage of the load sharing and redundancy capabilities, each power cord must be plugged into a separate dedicated ac outlet. The POWER (PWR) LED turns ON (green) and the CPU LED alternates between green and amber during boot up. It takes approximately one minute for the 2E253-49R to boot up.



If the power-up sequence is interrupted on this device, or if optional hardware has been installed or removed, this device may run an extended diagnostics sequence that may take up to five minutes to complete.

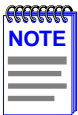


**Figure 3-5 2E253-49R Rear View**

2. Observe the LANVIEW LEDs. After a successful boot, the PWR LED turns ON (green). If the PWR LED is amber, there is no power redundancy. Check the power cord connections and the power source. If there are no problems with the power cord connections or power source and the PWR LED is still amber, contact Cabletron Systems. Refer to [Section 1.2](#) for details.

### 3.4 CONNECTING TO THE NETWORK

This section provides the procedures for connecting unshielded twisted pair (UTP) segments from the network or other devices to the 2E253-49R.

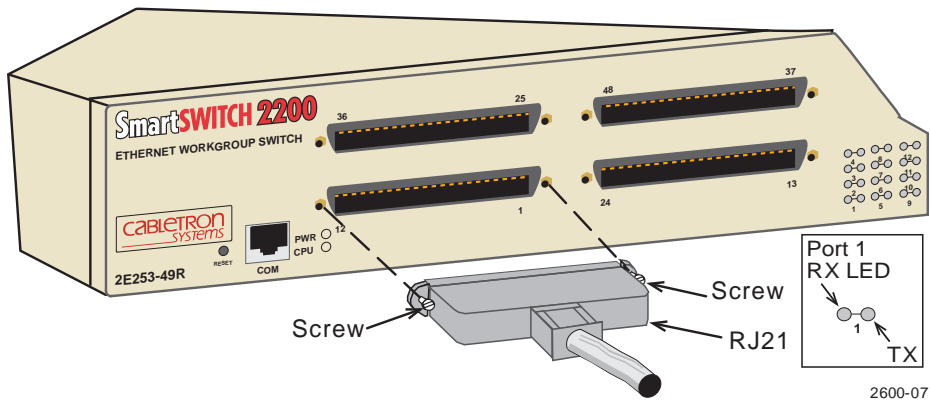


If the 2E253-49R is being installed in a network using SmartTrunking, there are rules concerning the network cable and port configurations that must be followed for SmartTrunking to operate properly. Before connecting the cables, refer to the Cabletron Systems *SmartTrunk User's Guide* for the configuration information.

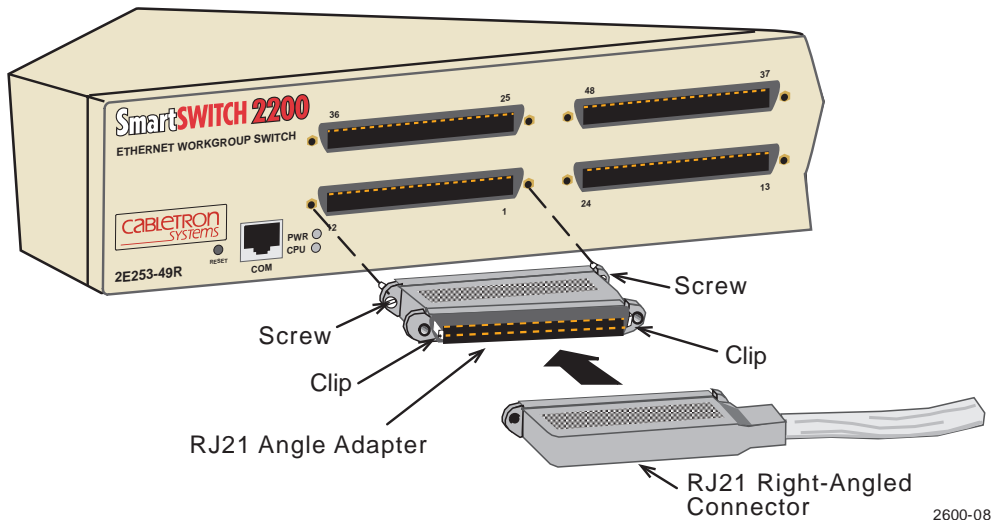
When facing the front panel of a 2E253-49R, the bottom left RJ21 is the connector for 10BASE-T ports 1 through 12; bottom right, ports 13 through 24; top left, ports 25 through 36; and top right, ports 37 through 48. All 48 ports have internal crossovers.

To connect an RJ21, proceed as follows:

1. Ensure that the device connected to the other end of the segment is powered ON.
2. If using an RJ21 straight connector, plug it into the appropriate RJ21 port as shown in [Figure 3-6](#) or, if using the RJ21 right-angled adapter supplied with the device, insert it as shown in [Figure 3-7](#). The RJ21 right-angled adapter enables the cables to be dressed along the front of the device and easily attached to the strain-relief bracket when using an RJ21 right-angled connector.

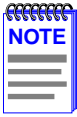


**Figure 3-6 Straight Cable Connection**



**Figure 3-7 Connection Using the RJ21 Angle Adapter**

3. Tighten the two screws on the RJ21 straight cable connector or RJ21 angle adapter, as applicable, to secure it to the device.



The cable pinouts for a 25-pair cable (RJ21) can be found in the Cabletron Systems *Cabling Guide*. Refer to [Section 1.2](#) for details on how to obtain this document.

4. If using the RJ21 angle adapter, plug the RJ21 right-angled connector as shown in [Figure 3-7](#). Depending on the type of RJ21 cable connector, it can be either plugged in until the retaining clips on the RJ21 adapter/extender snap into place or secured with screws.
5. Use the Group Select button to step to Group 1, 2, 3, or 4 and check LED pairs 1 through 12 to determine their link status. The top LEDs are the RX LEDs and the bottom ones are the TX LEDs. Start by stepping to Group 1 and verify that a link exists on each twisted pair segment of the RJ21 (Group 1) connector by checking to see if the associated port **RX** LED is on (flashing amber, blinking green, or solid green). [Figure 3-6](#) shows the RX and TX LEDs for port 1 of Group 1. If any of the **RX** LEDs are off, perform the following steps to check the associated twisted pair segment. The problem is resolved when the Link LED comes on.
  - a. Verify that the device at the other end of the twisted pair segment is on and connected to the segment.
  - b. Verify that the RJ21 connector associated with the twisted pair segment has the proper pinouts and check the cable for continuity.
  - c. Check that the twisted pair connection meets the dB loss and cable specifications outlined in [Chapter 2](#).

If a link is not established, contact Cabletron Systems. Refer to [Section 1](#) for details.

6. Repeat [steps 1](#) through [5](#) until all connections are made.

## 3.5 COMPLETING THE INSTALLATION

After installing the 2E253-49R and any optional HSIM or VHSIM, and making the connections to the network, proceed as follows:

1. Secure the cables by running the cables along the strain-relief bracket and tying them to the strain-relief bracket using cable ties.
2. The 2E253-49R is now ready to be configured through Local Management. Refer to the *SmartSwitch Series 2E253, 2H252, 2H253, and 2H258 Local Management User's Guide* for information on how to access and use Local Management.



## Troubleshooting

This chapter provides information concerning the following:

- Using LANVIEW (Section 4.1)
- Troubleshooting Checklist (Section 4.2)
- Using the RESET Button (Section 4.3)

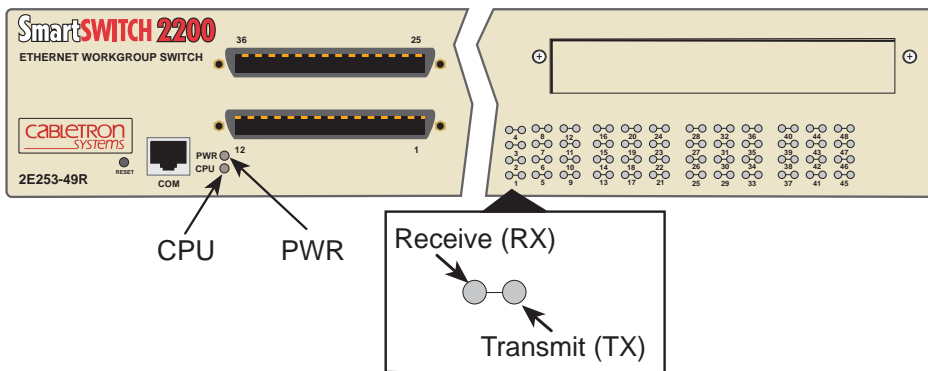
### 4.1 USING LANVIEW

The 2E253-49R uses Cabletron Systems' built-in visual diagnostic and status monitoring system called LANVIEW. The LANVIEW LEDs (Figure 4-1) allow quick observation of the network status to aid in diagnosing network problems.

#### Viewing Receive and Transmit Activity

Only one group of segments may be viewed at a time.

To view the receive and transmit activity on a group of segments, press the GROUP SELECT button (see Figure 4-1) to step to the group of interest (Group 1 through 4). Each time the GROUP SELECT button is pressed, the next GROUP LED (1, 2, 3, or 4) lights, indicating which Group is selected. The receive and transmit activity for that group of segments is then indicated by the RX and TX LEDs for each segment.



2600-09

Figure 4-1 LANVIEW LEDs

Table 4-1 describes the LED indications and provides recommended actions as appropriate.

Refer to the HSIM or VHSIM user’s guide for a description of the HSIM or VHSIM LED indications.



The terms **flashing**, **blinking**, and **solid** used in Table 4-1 indicate the following:

**Flashing** indicates an LED is flashing randomly.

**Blinking** indicates an LED is flashing at a steady rate (approximately 50% on, 50% off).

**Solid** indicates a steady LED light. No pulsing.

Table 4-1 LANVIEW LEDs

LED	Color	State	Recommended Action
PWR	Off	Device electronics not receiving power from power supply(ies).	1. Ensure that the power cords are plugged in correctly and that there is power at the power source. 2. Contact Cabletron Systems for technical support.
	Green	Functional. Power supply(ies) operating normally.	None.
	Amber	Indicates loss of power supply redundancy.	1. Ensure that the power cords are plugged in correctly and that there is power at the power source. 2. Contact Cabletron Systems for technical support.

Table 4-1 LANVIEW LEDs (Continued)

LED	Color	State	Recommended Action
CPU	Off	Power off.	Power up device.
	Red	<b>Blinking.</b> Hardware failure has occurred.	Contact Cabletron Systems for technical support.
		<b>Solid.</b> Resetting, normal power up reset.	If the LED remains red for several minutes, contact Cabletron Systems for technical support.
	Amber	<b>Blinking.</b> Crippled.	Contact Cabletron Systems for technical support.
		<b>Solid.</b> Testing.	If the LED remains amber for several minutes, contact Cabletron Systems for technical support.
	Green	<b>Solid.</b> Functional.	None.
RX (Receive)	Amber and Green	<b>Booting.</b> Blinks amber and green while booting.	None.
	Off	<b>No link.</b>	None.
		No activity or port in standby. Port enabled or disabled.	
	Green	<b>Solid.</b> Link, port enabled, no activity.	None.
		<b>Blinking.</b> Link, port disabled.	None.
	Amber	<b>Flashing.</b> Link, port enabled, activity.	None.
	Red	<b>Solid.</b> Diagnostic failure.	Contact Cabletron Systems for assistance.

Table 4-1 LANVIEW LEDs (Continued)

LED	Color	State	Recommended Action
TX (Transmit)	Off	Port enabled, and no activity.  Should flash green every two seconds indicating BPDUs being sent if STA is enabled and there is a valid link.	1. Ensure that the STA is enabled and that there is a valid link. 2. Contact Cabletron Systems for technical support.
	Green	<b>Flashing.</b> Indicates activity. Rate indicates data rate.	None.
	Amber	<b>Blinking.</b> Port in standby.  Port may be disabled due to Spanning Tree.	1. Ensure that the port is not disabled. 2. Contact Cabletron Systems for technical support.
	Red	<b>Flashing.</b> Indicates collision rate.	None, unless there is a high amount of activity. In this case, check for network configuration problems or a defective device.
		<b>Solid.</b> Diagnostic failure.	Contact Cabletron Systems for technical support.

## 4.2 TROUBLESHOOTING CHECKLIST

If the 2E253-49R is not working properly, refer to [Table 4-2](#) for a checklist of problems, possible causes, and recommended actions to resolve the problem.

**Table 4-2 Troubleshooting Checklist**

Problem	Possible Cause	Recommended Action
All LEDs are OFF.	Loss of power.	Check for proper connection of the power cable and its access to a live outlet.
	Installed improperly.	Ensure that the 2E253-49R was installed properly according to the installation instructions in <a href="#">Chapter 3</a> .
No Local Management Password screen.	Autobaud is enabled, but the baud rate has not yet been detected.	Press ENTER (RETURN) (may take up to four times).
	Terminal setup is not correct.	Refer to <i>SmartSwitch Series 2E253, 2H252, 2H253, and 2H258 Local Management User's Guide</i> for proper setup procedures.
	Improper console cable pinouts.	Refer to <a href="#">Appendix A</a> for proper console port pinouts.
	Corrupt firmware image, or hardware fault.	If possible, attempt to download the image to the 2E253-49R again. Refer to <a href="#">Section B.3</a> for instructions to clear NVRAM.
Cannot navigate beyond Password screen.	Improper Community Names Table.	<ol style="list-style-type: none"> <li>1. Refer to <i>SmartSwitch Series 2E253, 2H252, 2H253, and 2H258 Local Management User's Guide</i> for the Community Names Table setup.</li> <li>2. If the Community Names have been forgotten, refer to <a href="#">Section B.3</a> for instructions on how to set the mode switch to reset the Community Names to their default values.</li> </ol>

**Table 4-2 Troubleshooting Checklist (Continued)**

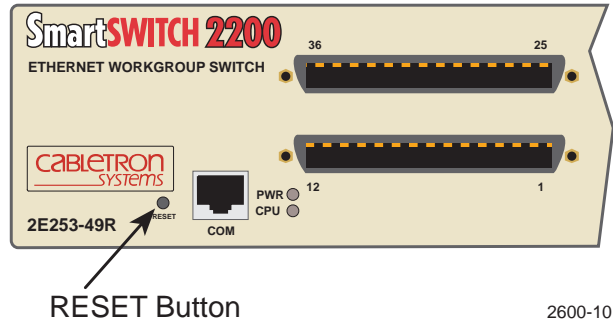
Problem	Possible Cause	Recommended Action
Cannot contact the 2E253-49R through in-band management.	IP address not assigned.	Refer to <i>SmartSwitch Series 2E253, 2H252, 2H253, and 2H258 Local Management User's Guide</i> for the IP address assignment procedure.
	Port is disabled.	Enable port. Refer to <i>SmartSwitch Series 2E253, 2H252, 2H253, and 2H258 Local Management User's Guide</i> for instructions to enable/disable ports.
	No link to device.	<ol style="list-style-type: none"> <li>1. Verify that all network connections between the network management station and the 2E253-49R are valid and operating.</li> <li>2. If the problem continues, contact Cabletron Systems for technical support.</li> </ol>
Port(s) goes into standby for no apparent reason.	Loop condition detected.	<ol style="list-style-type: none"> <li>1. Verify that Spanning Tree is enabled. Refer to <i>SmartSwitch Series 2E253, 2H252, 2H253, and 2H258 Local Management User's Guide</i> for the instructions to set the type of STA.</li> <li>2. Review the network design and delete unnecessary loops.</li> <li>3. If the problem continues, contact Cabletron Systems for technical support.</li> </ol>
User parameters (IP address, Device and Module name, etc.) were lost when the 2E253-49R power was cycled or the front panel RESET button was pressed.	<ol style="list-style-type: none"> <li>1. Position of Mode switch (7), NVRAM Reset, was changed sometime before either cycling power or pressing the RESET button, causing the user-entered parameters to reset to factory default settings.</li> <li>2. Clear NVRAM was set through Local Management.</li> </ol>	<ol style="list-style-type: none"> <li>1. Reenter the lost parameters as necessary. Refer to <i>SmartSwitch Series 2E253, 2H252, 2H253, and 2H258 Local Management User's Guide</i> for the instructions to configure the device through Local Management.</li> <li>2. If the problem continues, contact Cabletron Systems for technical support.</li> </ol>

## 4.3 USING THE RESET BUTTON

The RESET button shown in [Figure 4-2](#) resets and re-initializes the 2E253-49R.



Pressing the RESET button resets the device, and all current switching being performed by the device is halted. A network downtime of up to two minutes will result from this action.



**Figure 4-2 RESET Button**

To reset the 2E253-49R processor, press and release the RESET button. The 2E253-49R goes through a reset process for approximately 60 seconds. Additional downtime may result as the device reenters the network.



It is not recommended to press the RESET button while the device is already in reset mode. If so, the device will enter an extended diagnostic procedure, which is unnecessary for normal operation. This extended diagnostic procedure takes much longer than a minute.





---

# Specifications

This appendix provides operating specifications for the Cabletron Systems 2E253-49R. Cabletron Systems reserves the right to change these specifications at any time without notice.

## A.1 DEVICE SPECIFICATIONS

Processors:	Intel i960 RISC processor Power PC
Dynamic Random Access Memory (DRAM):	20 MB expandable to 32 MB
FLASH Memory:	8 MB
Shared Memory:	4 MB

## A.2 PHYSICAL PROPERTIES

Dimensions:	7.11H x 43.18W x 46.99D (cm) 2.8H x 17W x 18.5D (in)
Approximate Weight (Unit):	8.18 kg (18 lb)
MTBF:	45,374 hours

A.3 ELECTRICAL SPECIFICATIONS

Line Input Range, Volts (V)	100–125 Vac	200–240 Vac
Input Current, Amperes (A)	2.3 A	1.2 A
Frequency, Hertz (Hz)	50/60 Hz	50/60 Hz
Input Power, Volt Amperes (VA)	250 VA	250 VA

A.4 ENVIRONMENTAL REQUIREMENTS

Operating Temperature:	5°C to 40°C (41°F to 104°F)
Storage Temperature:	-30°C to 73°C (-22°F to 164°F)
Operating Relative Humidity:	5% to 90% (non-condensing)

A.5 INPUT/OUTPUT PORTS

Ports 1 through 48 (four RJ 21 connectors):	Ethernet (10BASE-T compliant) with RJ21 type connectors. Each connector provides connection for 12 ports.
Interface Slot:	Slot accepts optional High Speed Interface Module (HSIM) or Very High Speed Interface Module (VHSIM) to provide a variety of cabling connections.

## A.6 COM PORT PINOUT ASSIGNMENTS

The COM port is a serial communications port that supports Local Management or connection to a UPS.

Table A-1 shows the COM port pin assignments.

**Table A-1 COM Port Pin Assignments**

Pin	Signal Name	Input/Output
1	Transmit Data (XMT)	Output
2	Data Carrier Detect (DCD)	Output
3	Data Set Ready (DSR)	Input
4	Receive Data (RCV)	Input
5	Signal Ground (GND)	NA
6	Data Terminal Ready (DTR)	Output
7	Request to Send (RTS)	Input
8	Clear to Send (CTS)	NA

## A.7 REGULATORY COMPLIANCE

This equipment meets the following safety and electromagnetic compatibility (EMC) requirements:

Safety: UL 1950, CSA C22.2 No 950, 73/23/EEC, EN 60950, IEC 950

Electromagnetic Compatibility (EMC): FCC Part 15, CSA C108.8, 89/336/EEC, EN 55022, EN 61000-3-2, EN 61000-3-3, EN 50082-1, AS/NZS 3548, VCCI V-3



---

## Optional Installations and Mode Switch Bank Settings



ONLY QUALIFIED SERVICE PERSONNEL SHOULD ATTEMPT THE FOLLOWING PROCEDURES.

NUR QUALIFIEZIERTE SERVICE PERSONNAL DIE FOLGENDE PROCEDURE FOLGEN SOLLTEN.

SOLAMENTE PERSONAL CALIFICADO DEBE INTENTAR ESTE PROCEDIMIENTO.

The top cover must be removed to gain access to the mode bank switches, to install optional DRAM Single In-line Memory Modules (SIMMs), or to install an optional High Speed Interface Module (HSIM) or Very High Speed Interface Module (VHSIM).

This appendix covers the following items:

- Required tools ([Section B.1](#))
- Removing the chassis cover ([Section B.2](#))
- Locations, functions, and settings for the mode switches ([Section B.3](#))
- Installing optional SIMM upgrades ([Section B.4](#))
- Location of Optional HSIMs and VHSIMs ([Section B.5](#))

### B.1 REQUIRED TOOLS

Use the following tools to perform the procedures provided in this appendix:

- Antistatic wrist strap
- Phillips screwdriver

## B.2 REMOVING THE CHASSIS COVER

This section describes how to remove the 2E253-49R chassis cover.



DO NOT REMOVE THE COVER FROM THE 2E253-49R WHILE POWER IS APPLIED TO THE UNIT. HAZARDOUS VOLTAGES ARE PRESENT AND COULD CAUSE PERSONAL INJURY AND/OR DAMAGE THE UNIT.

DO NOT POWER UP THE 2E253-49R AGAIN UNTIL THE COVER AND SCREWS ARE IN PLACE.

DECKEL VON DAS 2E253-49R NICHT ABZIEHEN UNTER SPANNUNG. GEFAHR FÜR DAS PERSONNAL UND/ODER DAS GERÄT WEGEN GEFÄHRLICHE SPANNUNGEN ENSTEHT.

2E253-49R NICHEINSCHALTEN SO LANG DER DECKEL UND SCHRAUBEN NICHT EINGEBAUT SIND.

NO DEBE DE REMOVER LA TAPA DURENTE QUE ESTE CONELTADO A LA CORRIENTE, UNA DESCARGA ELECTRICA LE PUEDE CAUSAR Y PROBOCARLE DAÑOS, AL IGUAL QUE AL APARATO.

NO ENCHUFE A LA CORRIENTE HASTA QUE LA TAPA Y LOS TORNILLOS ESTEN EN SU LUGAR.



CAUTION: THIS UNIT MAY HAVE MORE THAN ONE POWER SUPPLY CORD. DISCONNECT TWO POWER SUPPLY CORDS BEFORE SERVICING TO AVOID ELECTRIC SHOCK.

VORSICHT: DIESES GERÄT HAT MEHR ALS EINEN NETZANSCHLUß. TRENNEN SIE VOR WARTUNGSARBEITEN DIE 2 NET ZANSCHLÜSSE VOM NETZ, UM ELEKTRISCHE SCHLÄGE ZU VERMEIDEN.

ATTENTION: CET APPAREIL COMPORTE PLUS D'UN CORDON D'ALIMENTATION. RAFIN DE PREVENIR LES CHOCS ELECTRIQUES, DEGRANCHER LES DEUX CORDONS D'ALIMENTATION AVANT DE FAIRE LE DEPANNAGE.

To remove the chassis cover, proceed as follows:

**1.** Disconnect the 2E253-49R from the network as follows:

- a.** Unplug both power cords from the rear of the chassis.



TURN OFF THE 2E253-49R BY UNPLUGGING THE POWER CORD FROM THE REAR OF THE CHASSIS.

AM HINTEN DES 2E253-49R STECHEI ABZIEHEN UM AUS ZU SCHALTEN.

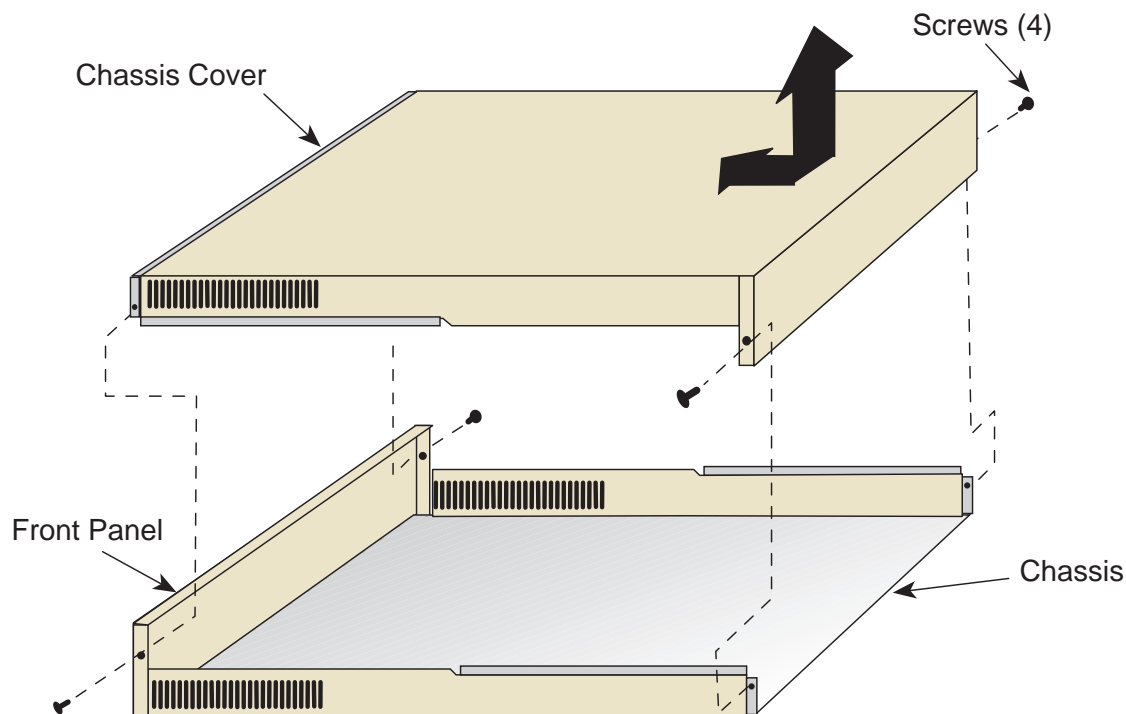
APAGUE EL 2E253-49R DESENCHUFE EL CABLE DE LA UNIDAD.



Before performing step b, mark the cables connected to the 2E253-49R according to their associated port numbers. This is recommended for ease of reinstallation.

- b.** Disconnect all network cables attached to the 2E253-49R.
- 2.** If the 2E253-49R is rack mounted, remove it from the rack and remove the rackmount brackets (refer to [Chapter 3](#)).
- 3.** Use a Phillips screwdriver to remove the four screws attaching the cover to the chassis. (See [Figure B-1](#).)
- 4.** Remove the cover by sliding it back (1) until it clears the front of the chassis and then lifting it straight up (2) and off the chassis.

To reinstall the chassis cover, perform the removal procedures in reverse.



**Note:** If the device was rack mounted, the four screws fastening the cover to the front panel are removed and installed along with the rackmount brackets.

2504-30

**Figure B-1 Removing the Chassis Cover**

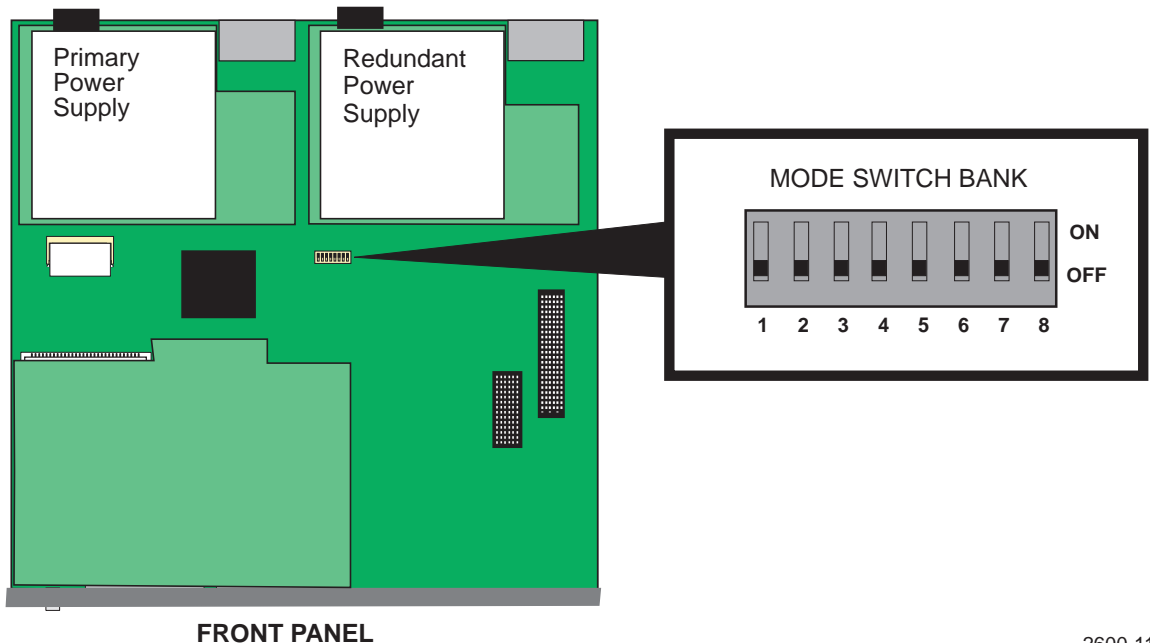


### B.3 SETTING THE MODE SWITCHES

Figure B-2 shows the location of the mode switches and the switch settings for normal operation. These switches are set at the factory and rarely need to be changed.

Switch definitions and positions are as follows:

- Switches 1 through 4 – For Cabletron Systems use only.
- Switch 5 – COM Port Autobaud. The default (OFF) position enables Autobaud sensing on the COM port for Local Management sessions. Changing the switch to the ON position disables Autobaud sensing and sets the COM port to 9600 baud for Local Management sessions.



2600-11

Figure B-2 Mode Switch Location

- Switch 6 – Forced BootP.

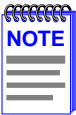


After changing the position of switch 6, DO NOT reapply power to the chassis until there is a station on the network acting as a BootP server, which contains the downloadable firmware image file.

DO NOT attempt a Forced BootP unless a BootP server has been configured for the 2E253-49R. The BootP server references the location of a station acting as a Trivial File Transfer Protocol (TFTP) server containing the 2E253-49R image file.

When the position of Switch 6 is changed and the power is cycled to the 2E253-49R, the device requests the image file location from the BootP server and uses TFTP to download the image from the TFTP server. If one of these requirements is not met, the 2E253-49R continues to request either the BootP server or the TFTP server until the RESET button on the 2E253-49R is pressed. Once the RESET button is pressed, the 2E253-49R resets after one minute and loads the image stored in FLASH memory.

- Switch 7 – Clear NVRAM. Changing the position of this switch resets NVRAM on the next power-up of the device. All user-entered parameters, such as the IP address, device names, etc., are reset to the factory default settings. Once the 2E253-49R resets, you can either use the factory default settings or reenter your own parameters.
- Switch 8 – Reset Password/Community Names. Changing the position of this switch clears user-entered passwords stored in NVRAM, and restores the factory default passwords on the next power-up of the device. Once the 2E253-49R resets, you can either use the factory default settings or reenter your own passwords.



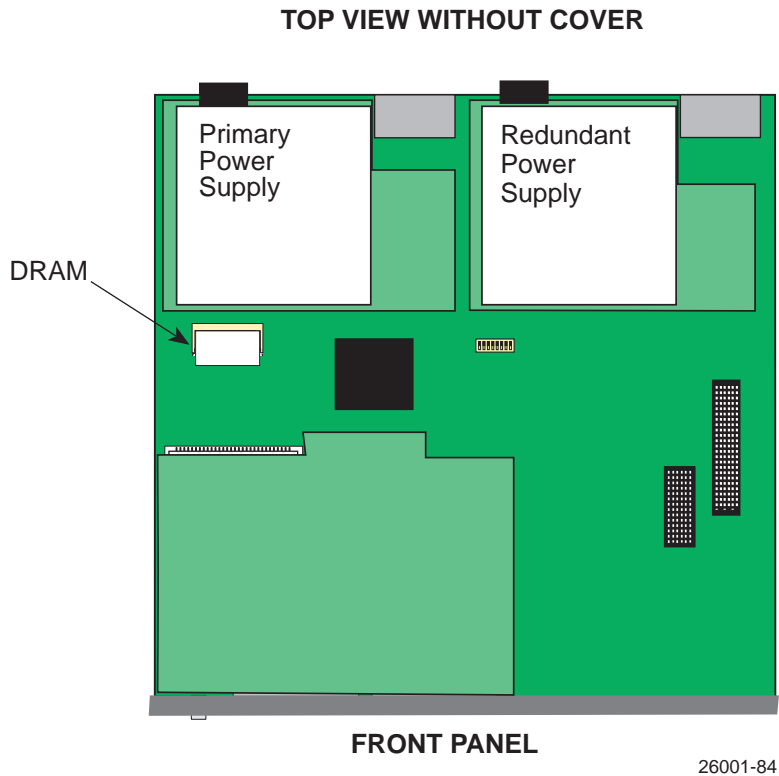
Do not change the position of switch 8 unless it is necessary to reset the module super-user configured passwords to their factory default settings.

## B.4 SIMM UPGRADE

Memory upgrade is available for the 2E253-49R to expand its DRAM to 32 MB. This section explains how to locate and add/replace a Single In-line Memory Module (SIMM). For information on the available SIMM upgrades, call Cabletron Systems. For details on getting help, refer to [Section 1.2](#).

### B.4.1 Locating SIMMs

Figure B-3 shows the location of the DRAM SIMM connector.



**Figure B-3 DRAM SIMM connector Location**

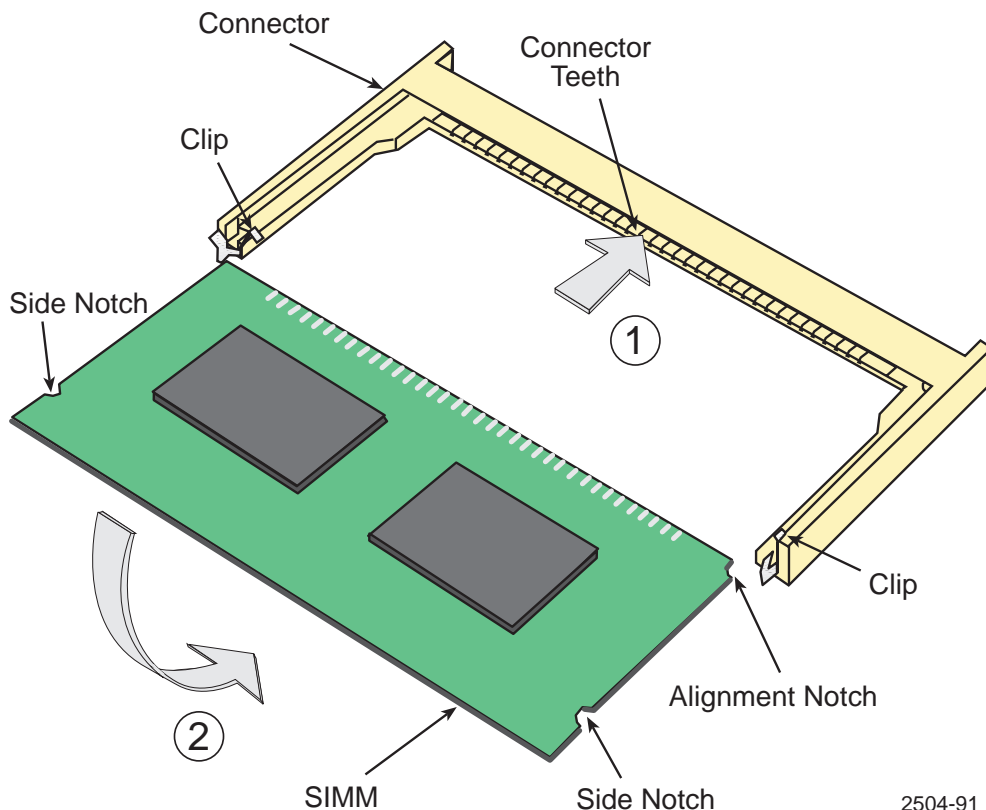
## B.4.2 Installing the DRAM SIMM



Observe all antistatic precautions when handling sensitive electronic equipment.

To install a DRAM SIMM, refer to [Figure B-4](#) and proceed as follows:

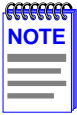
1. With the SIMM alignment notch oriented as shown in [Figure B-4](#), insert the SIMM down between the connector teeth.
2. Pivot the SIMM downward so the connector clips align with the two side notches of the SIMM and the connector clips lock the SIMM into place.



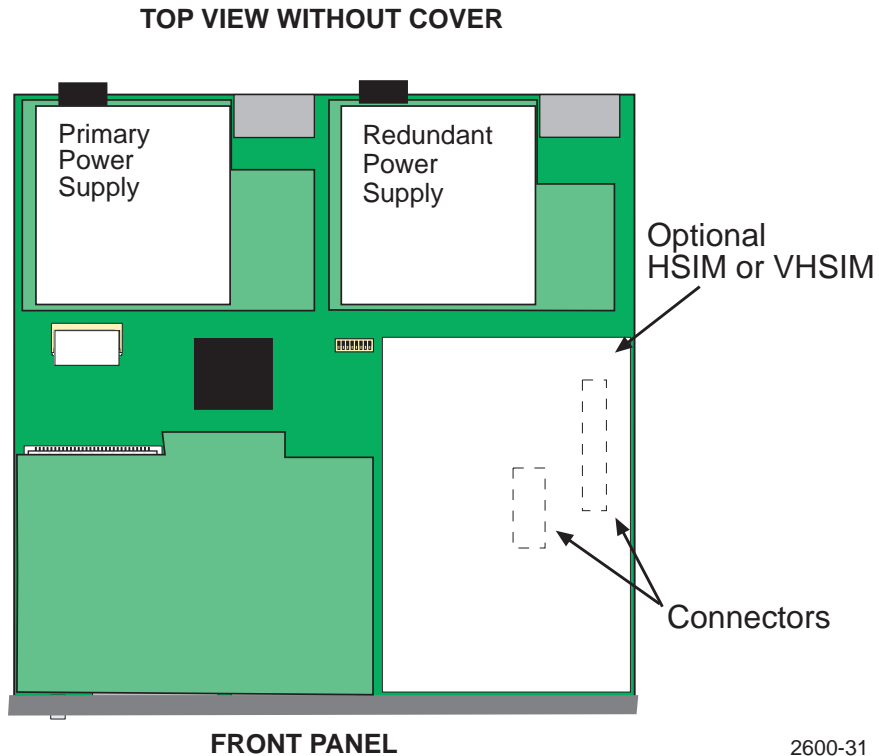
**Figure B-4** Installing the DRAM

## B.5 INSTALLING OPTIONAL HSIM OR VHSIM INTERFACE MODULES

Figure B-5 shows the location of the two connectors for an optional HSIM or VHSIM. Depending on the HSIM or VHSIM installed, one or both connectors are used.



Do not install the optional HSIM or VHSIM without referring to the associated installation guide.



**Figure B-5 HSIM and VHSIM Connector Locations**



## Numerics

---

10BASE-T  
    requirements 2-1  
2E253-49R  
    front panel 1-1  
802.1p Port Priority  
    introduction to 1-6

## A

---

Auto-Negotiation 1-3

## B

---

Broadcast Suppression  
    introduction to 1-4

## C

---

Cable specifications  
    10BASE-T network 2-1  
Chassis cover, removal of B-2  
COM port  
    pin assignments A-3  
Connecting to the network 3-8  
Connectivity  
    introduction to 1-2

## D

---

Document conventions xvii

## E

---

Environmental requirements A-2

## F

---

Flow control  
    introduction to 1-5

## G

---

Getting help 1-8  
GROUP SELECT button  
    use of the 4-1

## H

---

HSIM  
    installation of B-9

## I

---

Installation  
    HSIM  
        location of B-9  
    in a rack 3-4  
    on a tabletop or shelf 3-3  
    VHSIM  
        location of B-9

## L

---

LANVIEW LEDs 4-1  
Local Management  
    introduction to 1-6

## M

---

Management  
  use of [1-6](#)  
Memory  
  upgrading [B-6](#)  
Mode Switch  
  setting [B-5](#)

## N

---

Network connections [3-8](#)

## P

---

Physical properties [A-1](#)  
Port redirect function  
  introduction to [1-4](#)  
Power connection [3-7](#)

## R

---

Receive LEDs  
  viewing of [4-1](#)  
Redirect functions  
  port and VLAN  
    introduction to [1-4](#)  
Regulatory Compliance [A-3](#)  
Related manuals [xvi](#)  
Remote Monitoring (RMON)  
  introduction to [1-4](#)  
RESET button [4-7](#)  
Runtime IP address discovery [1-3](#)

## S

---

SIMMs  
  installing DRAM [B-8](#)  
  location [B-7](#)  
SmartTrunk  
  introduction to [1-3](#)  
Specifications [A-1](#)  
Standards compatibility [1-7](#)  
Switching options  
  introduction to [1-6](#)

## T

---

Transmit LEDs  
  viewing of [4-1](#)  
Troubleshooting [4-1](#)  
  checklist [4-5](#)

## U

---

Unpacking [3-2](#)

## V

---

VHSIM  
  installation of [B-9](#)  
Viewing Receive and Transmit Activity  
  instructions for [4-1](#)  
VLAN redirect function  
  introduction to [1-4](#)